

Appl. Ser. No. 09/667,097

Att. Docket No. 10746/21

Reply to Final Office Action of August 11, 2004

REMARKS

Since claims 31 to 45 were added without prejudice in the Amendment mailed on May 13, 2004, claims 1 to 45 are now pending.

Applicants respectfully request reconsideration of the present application in view of this response.

With respect to paragraph eight (8) of the Final Office Action, Applicants thank the Examiner for allowing claims 17, 19 and 21.

With respect to paragraphs one (1) and two (2) of the Final Office Action, these paragraphs are in error since they simply repeat the same paragraphs in the prior Office Action. In particular, they do not refer to the Amendment mailed on May 13, 2004, and they assert that only claims 1 to 30 are pending, when in fact claims 1 to 45 are pending.

Claims 31 to 45 have not been rejected and are therefore presumed to be patentable, including for the reason that they depend from allowable claims 1, 3, 5, 7, 9, 31, 34, 37, 40 and 42.

Since it does not appear that the Examiner considered the Amendment mailed on May 13, 2004, it is respectfully requested that the Examiner withdraw the finality of the present Office Action.

With respect to paragraph five (5), claims 1 to 15 were rejected under 35 U.S.C. § 102(e) as anticipated by Crinon et al, U.S. Patent No. 6,249,613.

As regards the anticipation rejection of the claims, to reject a claim under 35 U.S.C. § 102(b), the Office must demonstrate that each and every claim feature is identically described or contained in a single prior art reference. (*See Scripps Clinic & Research Foundation v. Genentech, Inc.*, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991)). As explained herein, it is respectfully submitted that the Office Action does not meet this standard, for example, as to all of the features of the claims. Still further, not only must each of the claim features be identically described, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed subject matter, as discussed herein. (*See Akzo, N.V. v. U.S.I.T.C.*, 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986)). In particular, it is respectfully submitted that, at least for the reasons discussed herein, the reference relied upon would not enable a person having ordinary skill in the art to practice the subject matter of the claims as presented.

As further regards the anticipation rejections, to the extent that the Office Action may be relying on the inherency doctrine, it is respectfully submitted that to rely on inherency, the Examiner must provide a “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics *necessarily* flows from the teachings of the applied art.” (See M.P.E.P. § 2112; emphasis in original; and see *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int’f. 1990)). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic. Accordingly, it is respectfully submitted that any anticipation rejection premised on the inherency doctrine must fail absent the foregoing conditions.

Claim 1 as presented is directed to a method that includes: generating a provisional sprite where foreground objects are deleted; cutting out a first image from the provisional sprite by using the global motion; obtaining a difference image between the first image and the original image; *extracting, with the provisional sprite, a foreground object image as a region in the difference image where each difference value in the region is equal to or higher than a threshold, and an other region as a background image; and mapping the background image to the reference coordinate system by using the global motion for the each of frames by inserting a new pixel in a point where a pixel value is not yet decided, or by overwriting a pixel, for generating, with the provisional sprite, and outputting a background sprite without the foreground objects.* These features are simply not addressed in any way by the Final Office Action, since it merely repeated its assertions from the prior Office Action without regard to the substance of the Amendment mailed on May 13, 2004.

As to claim 1 as presented, the Final Office Action does not even address the claim as revised, and therefore it does not even conclusorily assert how the claim as presented is identically described (or even suggested), which it is not. Instead, the Final Office Action merely repeats its prior conclusory assertion that the text at col. 2, lines 37-55, and col. 3, lines 23-35, in Crinon identically discloses all of the features of claim 1. This text only reads as follows:

In the encoder, foreground and background objects are segmented by first encoding and decoding a first image at a first time reference. The method used to encode and decode this first image does not need to be specified for the purpose of this

invention. The second image at a second time reference is divided into non-overlapping macroblocks (tiles). The macroblocks are matched to image sample arrays in the decoded first image or in the mosaic. In the first case, the encoder uses local motion vectors to align an individual macroblock with one or several corresponding image sample array in the previous decoded image. In the second case, the encoder uses parameters of a global motion model to align an individual macroblock with a corresponding mosaic sample array. The encoder evaluates the various residuals and selects the proper prediction signal to use according to a pre-specified policy. This decision is captured in the macroblock type. The macroblock types, the global motion parameters, the local motion vectors and the residual signals are transmitted to the decoder.

....

Automatic segmentation does not require any additional frame storage and works in a coding and in a non-coding environments In a non-coding environment, the invention operates as an automatic segmentation-based mosaic image reconstruction encoder. *Automatic object segmentation builds a mosaic for an object exhibiting the most dominant motion in the video sequence by isolating the object from the others in the video sequence and reconstructing a sprite for that object only. The sprite becomes more useable since it is related to only one object. The results of the auto-segmentation can be used to obtain more accurate estimates of the dominant motion and prevent the motion of other objects in the video sequence from interfering with the dominant motion estimation process.*

("Crinon" reference, col. 2, lines 37-55; and col. 3, lines 23-35).

It is simply not understood how this text in way identically describes or discloses -- as it must for anticipation -- all of the features of claim 1, including the features of *extracting, with the provisional sprite, a foreground object image as a region in the difference image where each difference value in the region is equal to or higher than a threshold, and an other region as a background image, and mapping the background image to the reference coordinate system by using the global motion for the each of frames by inserting a new pixel in a point where a pixel value is not yet decided, or by overwriting a pixel, for generating,*

with the provisional sprite, and outputting a background sprite without the foreground objects, as in claim 1 as presented.

In particular, in claim 1 as presented, a provisional sprite or temporary background sprite is once generated. Then, *the background image and foreground image are separated by using the provisional sprite*, so that a background sprite *without the foreground objects* is generated by using background images. The claimed subject matter provides the benefit of obtaining a clear background sprite that has no blur. That is, as explained at page 2, lines 15-22 and page 3, lines 14-18 in the “Description of the Related Art” Section of the specification of the present application, a background sprite generated by a “conventional” method may be unclear, but with the method of claim 1 as presented, a provisional sprite is once generated, and then a sprite is generated again by using the provisional sprite, so that a clear sprite is generated, as provided for in the context of claim 1 as presented.

It is respectfully submitted that the Crinon reference does not identically describe (or even suggest) the sprite generation method of claim 1 *using a provisional sprite*, so as to provide the benefit of a clear sprite. In the text at col. 2, lines 37-55, Crinon only indicates that, in the encoder, foreground and background objects are segmented by first encoding and decoding a first image at a first time reference; the macroblocks are matched to image sample arrays. As further characterized in that reference, in the first case, the encoder uses local motion vectors to align an individual macroblock with one or several corresponding image sample arrays, and in the second case, the encoder uses parameters of a global motion model to align an individual macroblock with a corresponding mosaic sample array, the encoder evaluates the various residuals and selects the proper prediction signal, this decision is captured in the macroblock type, and the macroblock types, the global motion parameters, the local motion vectors and the residual signals are transmitted to the decoder.

In the text at col. 3, lines 23-35, Crinon only indicates that automatic segmentation does not require any additional frame storage and works in a coding and in a non-coding environments. *Thus, the “Crinon” system, as characterized in that reference, operates as an automatic segmentation-based mosaic image reconstruction encoder, in which automatic object segmentation builds a mosaic for an object exhibiting the most dominant motion in the video sequence by isolating the object from the others in the video sequence and*

reconstructing a sprite for that object only, so that the sprite becomes more useable since it is related to only one object.

The Final Office Action simply does not explain -- because it cannot do so based on the reference, as any Board of Appeals would agree -- how any of this text corresponds to or identically describes all of the features of claim 1 as presented, including the features of *extracting with a provisional sprite a foreground object image as a region in the difference image where each difference value in the region is equal to or higher than a threshold, and extracting an other region as a background image, and mapping the background image to the reference coordinate system by using the global motion for the each of frames by inserting a new pixel in a point where a pixel value is not yet decided, or by overwriting a pixel, for generating, with the provisional sprite, and outputting a background sprite without the foreground objects*, as in claim 1 as presented.

It is therefore respectfully submitted that any review of the Crinon reference, including the text at col. 2, lines 37-55, and col. 3, lines 23-35, makes plain that simply does not identically describe (or even suggest) the above-discussed features of claim 1 as presented.

As to claim 2, in Crinon, Fig. 8 only indicates how the encoder 25 (FIG. 5A) distinguishes background from foreground in the INTER1V macroblocks. The macroblock 15 in VOP 14 is determined by the encoder 25 to be of type INTER1V. The global motion parameters for VOP 14 are applied to macroblock 15 in box 58. The INTER1V local motion vector is applied to macroblock 15 in block 56. A pixel array 55 corresponding to the global motion vector is compared to the macroblock 15 to generate the global motion estimation residual $GMER(j,k)$ in block 62. The pixel array 18 corresponding to the INTER1V local motion vector is compared to the macroblock 15 generating the INTER1V residual $RES(j,k)$ in block 64. The global motion estimation residual $GMER(j,k)$ and the INTER1V residual $RES(j,k)$ are compared in block 66. If the global residual $GMER(j,k)$ is greater than some portion of the INTER1V residual $RES(j,k)$, then the image in the macroblock 15 has its own motion and does not correspond to the global motion induced by panning, zooming, etc. of the camera. Accordingly, the image in macroblock 15 is tagged as foreground in block 68. Conversely, when the INTER1V residual $RES(j,k)$ is greater than the global residual $GMER(j,k)$, the image in the macroblock 15 tagged as background because it is likely to be

new content in the background or a better representation of the background than what is currently in the mosaic 22. The macroblocks 15 tagged as background are inserted into the mosaic 22. (See Crinon, Figures 5A and 8, and related text).

This procedure simply does not identically describe (or even relate to) the features of claim 2 which involve cutting out a second image from the background sprite by using the global motion, obtaining a difference image between the second image and the original image, and extracting a foreground object image as a region in the difference image where each difference value in the region is equal to or higher than a threshold.

It is therefore respectfully submitted that claim 2 is allowable for these further reasons.

Independent claims 3 and 5 include features like those of claim 1 and are therefore allowable for essentially the same reasons.

As further regards claims 4 and 6, which respectively depend from claims 3 and 5, claims 4 and 6 include features like those of claim 2 and are also allowable for essentially the same further reason as claim 2.

To further define the subject matter of claims 1, 3 and 5, new claims 31 to 39 were presented in the Amendment mailed on May 13, 2004. These claims did not add any new matter and are supported in the specification. These claims were not addressed in any way in the Final Office Action.

Claims 31 to 33 depend from claim 1 as presented, and are therefore allowable for the same reasons as claim 1. Still further, new claim 31 provides that the "foreground object image is automatically extractable without a chroma key, manual processing is not required, and outline information of the foreground object is obtainable", as explained in the specification at page 2, line 28 to page 3, line 13, and page 6, lines 28 to 35. Accordingly, claim 31 is allowable for these further reasons, as is its dependent claim 32. Dependent claim 33 also requires that the background sprite is clear or of good quality, as explained, for example, at page 6, lines 28 to 35, of the specification, so that claim 33 is allowable for this further reason.

Claims 34 to 36 are like claims 31 to 33, except that claims 34 to 36 depend from claim 3 as presented, and are therefore allowable for the same reasons as claim 3. Claims 35 and 36 are respectively like claims 32 and 33, and are therefore also allowable for the same further reasons as claims 32 and 33.

Claims 37 to 39 are like claims 31 to 33, except that claims 37 to 39 depend from claim 5 as presented, and are therefore allowable for the same reasons as claim 5 as presented. Claims 38 and 39 are respectively like claims 32 and 33, and are therefore also allowable for the same further reasons as claims 32 and 33.

In claim 7, *a first value is provided to all shape pixels in each of first macro-blocks when the number of pixels of the foreground part in the first macro-block is equal to or larger than a first predetermined value n ($n \geq 1$); and the first value is provided to all shape pixels in each of second macro-blocks when the number of pixels of the foreground part in the second macro-block is equal to or larger than a second predetermined value m ($m < n$), wherein the second macro-block is close to the first macro-block where the first value is provided. That is, claim 7 provides a first macro-block approximation and a second macro-block approximation, as described at pages 24-26 of the specification (see Fig. 11C). By performing the two stage macro-block approximation for extracting a segmentation mask, no hole remains in an extracted object, so that a good-looking extracted object may be provided.*

In contrast, in Crinon, Fig. 9 and the text at col. 9, lines 42-67, and col. 10, lines 1-30, it only refers to a “process segmentation map” to “make regions more homogeneous” and to “updat[ing the] mosaic according to [a] new segmentation map”. Also, the Crinon reference only refers to a binary segmentation map and to using a neighborhood of macro-blocks around a macro-block of interest in the text at col. 9, lines 20-28. Accordingly, Crinon does not identically describe (or even suggest) the first and second macro-blocks in which *a first value is provided to all shape pixels in each of first macro-blocks when the number of pixels of the foreground part in the first macro-block is equal to or larger than a first predetermined value n ($n \geq 1$), and in which the first value is provided to all shape pixels in each of second macro-blocks when the number of pixels of the foreground part in the*

second macro-block is equal to or larger than a second predetermined value m ($m < n$), as provided for in the context of claim 7.

While the Office Action conclusorily asserts that the claim features are met, it simply does not (because it cannot based on the reference) identify or explain how the text at columns 9 and 10 of the Crinon reference in any way identically describes these features. It is wholly insufficient to establish anticipation by simply asserting that the cited columns refer to macroblocks that are simply tagged as foreground or background. Claim 7 specifically requires that *a first value is provided to all shape pixels in each of first macro-blocks when the number of pixels of the foreground part in the first macro-block is equal to or larger than a first predetermined value n ($n \geq 1$), and in which the first value is provided to all shape pixels in each of second macro-blocks when the number of pixels of the foreground part in the second macro-block is equal to or larger than a second predetermined value m ($m < n$)* – which is simply not identically described (or even suggested) in the Crinon reference, as any Appeals Board would agree.

As explained above, to the extent that the Final Office Action may be relying on the inherency doctrine, it is respectfully submitted that to rely on inherency, the Examiner must provide a “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics *necessarily* flows from the teachings of the applied art.” (See M.P.E.P. § 2112; emphasis in original; and see Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int’f. 1990)). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic. Accordingly, it is respectfully submitted that any anticipation rejection premised on the inherency doctrine must and will fail absent the foregoing conditions.

Accordingly, claim 7 is allowable, as is its dependent claim 8.

Claim 9 is directed to a method that includes the following: generating a number map by calculating the number of pixels of a foreground part for each of macro-blocks in said foreground mask image, initializing a foreground map, *providing a predetermined value to each of positions in the foreground map corresponding to first macro blocks when a value of the number map corresponding to the first macro-block is equal to or larger than a first predetermined value n ($n \geq 1$), and providing the predetermined value to each of positions in*

the foreground map corresponding to second macro-blocks when a value of the number map-corresponding to the second macro-block is equal to or larger than a second predetermined value m ($m < n$), in which the second macro-block is close to the first macroblock where the predetermined value is provided; and generating the segmentation mask from the foreground map and outputting the segmentation mask. Claim 9 includes the first and second macro-block approximation features like those of claim 7, and the foreground map is also used in claim 9, as with respect to, for example, the “modified third embodiment” at pages 30-32 of the specification.

While the Final Office Action conclusorily asserts that the claim features are met, it simply does not (because it cannot based on the reference) identify or explain how the text at columns 9 and 10 of the Crinon reference in any way identically describes these features. It is wholly insufficient to establish anticipation by simply asserting that the cited columns refer to macroblocks that are simply tagged as foreground or background. Claim 7 specifically requires *providing a predetermined value to each of positions in the foreground map corresponding to first macro blocks when a value of the number map corresponding to the first macro-block is equal to or larger than a first predetermined value n ($n \geq 1$), and providing the predetermined value to each of positions in the foreground map corresponding to second macro-blocks when a value of the number map-corresponding to the second macro-block is equal to or larger than a second predetermined value m ($m < n$)* -- which is simply not identically described (or even suggested) in the Crinon reference, as any Appeals Board would agree. Thus, with the macro-block based shape approximation of claim 7, it only requires a small or a lesser amount of or limits shape information and it decreases or better limits erosion of the foreground.

In short, the Crinon reference only refers to generating macro-blocks having multiple local motion type vectors and to having macroblocks as foreground only, background only, and foreground or background (col. 2, lines 37-67), so that the reference does not identically describe (or even suggest) the features of claim 9. Also, since claim 9 includes features like those of claim 7, the Crinon reference does not identically describe claim 9 (or dependent claim 10) for essentially the same reasons as claim 7, so that claim 9 is allowable.

Claims 10, 11 and 12 respectively include features like those of corresponding claims 7, 8 and 9, and are therefore allowable for essentially the same reasons, respectively.

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Claims 13, 14 and 15 respectively include features like those of corresponding claims 7, 8 and 9, and are therefore allowable for essentially the same reasons, respectively.

Accordingly, claims 1 to 15 are allowable.

Finally, claims 40 to 45 presented in the Amendment mailed on were not addressed in any way in the Final Office Action.

Claims 40 to 45, which were added in the Amendment mailed on May 13, 2004, did not add any new matter and are supported in the specification. These claims depend from claims 7 or 9, and are therefore allowable for the same reasons as claims 7 or 9. Claims 40 to 45 provide that two-stage macro-block approximation for extracting a segmentation mask provides that there is no hole in an extracted object and/or that the two-stage macro-block based shape approximation reduces macro-block shape information and erosion of the foreground part. Accordingly, claims 40 to 45 are allowable for these further reasons.

As regards paragraph seven (7), claims 16, 18, 20 and 22 to 30 were rejected under 35 U.S.C. § 103(a) as unpatentable over Wang, U.S. Patent No. 6,125,409.

To reject a claim under 35 U.S.C. § 103(a), the Office bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim features. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Claim 16 is directed to a segmentation mask extraction method and includes the following: “obtaining”; initializing an energy map for the macro-block of the difference image; calculating energy values for the each macro-block; obtaining an average of the energy

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values; *calculating a foreground ratio which is a ratio of the size of a foreground mask to the size of the image; and generating the segmentation mask by using the foreground ratio.*

As described as to the fourth embodiment of the specification, when the foreground ratio is too large, the amount of shape coding bits increases. With the claimed subject matter, however, since the foreground ratio can be restricted, one benefit provided is that the amount of coding bits can be decreased for MPEG-4 coding.

In stark contrast, a careful review and word search of the Wang reference makes plain that it does not even refer to foreground or foreground ratio, and that it simply does not in any way disclose or suggest the claim 16 features of *calculating a foreground ratio which is a ratio of the size of a foreground mask to the size of the image, and generating the segmentation mask by using the foreground ratio*. Quite simply, Wang does not describe any “generating” of a “segmentation mask by using foreground ratio”.

While the Office Action asserts that Wang discloses an energy map, feature vector or image descriptor to describe multi-band images or the correlation between a first image and a second image (col. 5, lines 12-59), this simply does not in any way describe or relate to “generating” a “segmentation mask by using foreground ratio”, as understood in the context of the specification and the claims, nor does the Final Office Action explain in any way how this is so.

Still further, the Office Actions to date admit that the cited reference does not disclose representing an energy map as a macro-block for each different image, and then conclusorily asserts that it would have been obvious to “include macro-blocks as image descriptors with the system of Wang to further describe the correlation of first and second images for performing image matching”.

While this assertion does not even begin to address the critical deficiencies explained above, the unsupported assertion representing the basis for the obviousness rejection (or any Official Notice) is respectfully traversed to the extent that it is maintained and it is requested that the Examiner provide specific evidence to establish those assertions and/or contentions that may be supported under 37 C.F.R. § 1.104(d)(2) or otherwise.

In particular, it is respectfully requested that the Examiner provide an affidavit and/or that the Examiner provide published information concerning the conclusory assertions that it would have been obvious to “include macro-blocks as image descriptors with the system of

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Wang to further describe the correlation of first and second images for performing image matching”, and why. This is because the § 103 rejections are apparently based on assertions that draw on facts within the personal knowledge of the Examiner, since no support was provided for these otherwise conclusory and unsupported assertions. (See also MPEP § 2144.03). In view of the foregoing, it is respectfully submitted that claim 16 is allowable for this further reason.

Therefore, claim 16 is allowable, as are independent claims 18 and 20, which recite features like those of claim 16.

As to claim 22, it also includes first and second macro-block approximation features like those of claim 7, as described in the text at page 26, lines 24-26, as to the fourth embodiment of the specification, as well as claim 16. The Office Action asserts that Wang discloses an energy map, feature vector or image descriptor to describe multi-band images or the correlation between a first image and a second image, but Wang simply does not describe the first and second macro-block approximation features as recited in the context of claim 22 (or claim 7), so that claim 22 is allowable for essentially the same reasons as claims 7 and/or 16, as explained above.

Claim 23 depends from claim 22, and is therefore allowable for the same reasons as claim 22.

Claim 24 also includes first and second macro-block approximation features for extracting a segmentation mask, like those of claims 7 and 22. In addition, claim 24 includes the feature of “dividing energy value by average”, “iterating”, and the like. The Office Action unsupportedly asserts that Wang discloses comparing the image descriptors and categorizing the different image descriptors belonging to a different image category type (col. 17, lines 32-67), but it simply does not even suggest the first and second macro-block approximation features for extracting a segmentation mask, as explained above, so that claim 24 is allowable for essentially the same reasons as claims 7 and/or 22, as explained above.

Claims 25, 26 and 27, and claims 28, 29 and 30, include features like those of analogous claims 22, 23 and 24, respectively, and are therefore allowable for essentially the same reasons, respectively.

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As further regards all of the above obviousness rejections, to reject a claim as obvious under 35 U.S.C. § 103, the prior art must disclose or suggest each claim element and there must be a motivation or suggestion for combining the elements in the manner contemplated by the claim. (See Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 934 (Fed. Cir. 1990), cert. denied, 111 S. Ct. 296 (1990); In re Bond, 910 F.2d 831, 834 (Fed. Cir. 1990)). Thus, the “problem confronted by the inventor must be considered in determining whether it would have been obvious to combine the references in order to solve the problem”, Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675, 679 (Fed. Cir. 1998). The references relied upon simply do not address the problems (referred to in the present application) that are met by the subject matter of any of the rejected claims, including the problem of providing a clear background sprite, as explained above.

The cases of In re Fine, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988), and In re Jones, 21 U.S.P.Q.2d 1941 (Fed. Cir. 1992), also make plain that the Office Action’s assertions that it would have been obvious to modify the reference relied upon does not properly support a § 103 rejection. It is respectfully suggested that those cases make plain that the Office Action reflects a subjective “obvious to try” standard, and therefore does not reflect the proper evidence to support an obviousness rejection based on the references relied upon. In particular, the Court in the case of In re Fine stated that:

Instead, the Examiner relies on hindsight in reaching his obviousness determination. . . . **One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.**

In re Fine, 5 U.S.P.Q.2d at 1600 (citations omitted; emphasis added). Likewise, the Court in the case of In re Jones stated that:

Before the PTO may combine the disclosures of two or more prior art references in order to establish *prima facie* obviousness, there must be some suggestion for doing so, found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. . . .

Conspicuously missing from this record is any evidence, other than the PTO's speculation (if it be called evidence) that one of ordinary skill . . . would have been motivated to

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make the modifications . . . necessary to arrive at the claimed [invention].

In re Jones, 21 U.S.P.Q.2d at 1943 & 1944 (citations omitted; italics in original).

That is exactly the case here since it is believed and respectfully submitted that the Final Office Action reflects hindsight, reconstruction and speculation, which these cases have indicated does not constitute evidence that will support a proper obviousness finding.

More recently, the Federal Circuit in the case of In re Kotzab has made plain that even if a claim concerns a “technologically simple concept” -- which is not even the case here, there still must be some finding as to the “specific understanding or principle within the knowledge of a skilled artisan” that would motivate a person having no knowledge of the claimed subject matter to “make the combination in the manner claimed”, stating that:

In this case, the Examiner and the Board fell into the hindsight trap. The idea of a single sensor controlling multiple valves, as opposed to multiple sensors controlling multiple valves, is a technologically simple concept. *With this simple concept in mind, the Patent and Trademark Office found prior art statements that in the abstract appeared to suggest the claimed limitation. But, there was no finding as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of Kotzab's invention to make the combination in the manner claimed.* In light of our holding of the absence of a motivation to combine the teachings in Evans, we conclude that the Board did not make out a proper *prima facie* case of obviousness in rejecting [the] claims . . . under 35 U.S.C. Section 103(a) over Evans.

(See In re Kotzab, 55 U.S.P.Q.2d 1313, 1318 (Federal Circuit 2000) (italics added)). Here again, there have been no such findings to establish that the features discussed above of the rejected claims are met by the reference relied upon. As referred to above, any review of the reference relied upon makes plain that it simply does not describe the features discussed above of the rejected claims.

More recent still, in the case of In re Lee, 61 U.S.P.Q.2d 1430, 1433-35 (Fed. Cir. 2002), the Court reversed the Board of Appeals for relying on conclusory statements, stating the following:

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*With respect to Lee's application, neither the examiner nor the Board adequately supported the selection and combination of the Nortrup and Thunderchopper references to render obvious that which Lee described. The examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. **This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority.** It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher." Thus the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion.*

....

*In its decision on Lee's patent application, the Board rejected the need for "any specific hint or suggestion in a particular reference" to support the combination of the Nortrup and Thunderchopper references. **Omission of a relevant factor required by precedent is both legal error and arbitrary agency action.***

*[The] "common knowledge and common sense" on which the Board relied in rejecting Lee's application are not the specialized knowledge and expertise contemplated by the Administrative Procedure Act. **Conclusory statements such as those here provided do not fulfill the agency's obligation.***

[The] Board's findings must extend to all material facts and must be documented on the record, lest the "haze of so-called expertise" acquire insulation from accountability. "Common knowledge and common sense," even if assumed to derive from the agency's expertise, do not substitute for authority when the law requires authority.

Thus, the proper evidence of obviousness must show why there is a suggestion to modify the reference so as to provide the subject matter of the claims and its benefits.

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Still further, it is again respectfully submitted that not even a *prima facie* case has been made in the present case for obviousness, since the Office Action never made any findings, such as, for example, regarding in any way whatsoever what a person having ordinary skill in the art would have been at the time the claimed subject matter of the present application was made. (See In re Rouffet, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998) (the “factual predicates underlying” a *prima facie* “obviousness determination include the scope and content of the prior art, the differences between the prior art and the claimed invention, and the level of ordinary skill in the art”)). It is respectfully submitted that the proper test for showing obviousness is what the “combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art”, and that the Patent Office must provide particular findings in this regard -- the evidence for which does not include “broad conclusory statements standing alone”. (See In re Kotzab, 55 U.S.P.Q. 2d 1313, 1317 (Fed. Cir. 2000) (citing In re Dembiczak, 50 U.S.P.Q.2d 1614, 1618 (Fed. Cir. 1999) (obviousness rejections reversed where no findings were made “concerning the identification of the relevant art”, the “level of ordinary skill in the art” or “the nature of the problem to be solved”))). It is again respectfully submitted that there has been no such showings by the Office Action.

As explained above, claims 30 to 45 presented in the Amendment mailed on May 13, 2004 and which were not addressed in any way in the Final Office Action did not add any new matter and are supported in the specification, and are allowable for the reasons discussed above as to those claims.

In summary, it is respectfully submitted that all of claims 1 to 45 of the present application are allowable at least for the foregoing reasons.

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CONCLUSION

In view of the foregoing, it is believed that the objections and rejections have been obviated, and that claims 1 to 16, 18, 20 and 22 to 45 are allowable -- like allowed claims 17, 19 and 21. It is therefore respectfully requested that the objections and rejections be withdrawn, and that the present application issue as early as possible.

If the Examiner should have any questions or wish to discuss this matter, The Examiner is encouraged to contact the undersigned (Aaron C. Deditch, Reg. No. 33,865, who may be contacted at 212-908-6417).

Respectfully submitted,

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Dated: 11/2/2004

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